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EXAMINER	
RIVERO, ALEJANDRO	

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2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,693	MA ET AL.	
	Examiner	Art Unit	
	Alejandro Rivero	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 June 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference signs mentioned in the description: S30 (lines 7 and 14 of page 3), S70 (line 11 of page 11) and S73 (line 19 of page 11). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because of the following minor informalities: in figures 4 and 5 replace "Transffer traget SINR" with "Transfer target SINR". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal

phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it contains the phrase "The present invention relates to" (lines 1-2), which can be implied, and because it repeats information given in the title (lines 2-5). Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities:

In page 3 (line 8), the examiner respectfully suggests replacing S30 with S31.

Appropriate correction is required.

Claim Objections

6. Claims 1, 3, 8, 9, and 12 are objected to because of the following informalities:

In claim 1 (lines 4 and 7), the examiner respectfully suggests replacing “Obtain” with “obtain” and replacing “Determine” with “determine”.

In claim 3 (lines 3 and 6), the examiner respectfully suggests replacing “If” with “if” in both instances.

In claim 8 (lines 3 and 5), the examiner respectfully suggests replacing “Store” with “store” in both instances.

In claim 9 (lines 3 and 6), the examiner respectfully suggests replacing "Obtain" with "obtain" and replacing "Determine" with "determine".

In claim 12 (line 4), the examiner respectfully suggests replacing "memory unit used" with "memory unit is used".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 5, 6 and 8-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 (lines 4-5) recites the limitation "and that in current power control cycle". It is not clear, from reading the claim, what this phrase intends to encompass, thus rendering the claim indefinite. For the purpose of this examination, claim 1 will be treated as reciting "and obtaining power control information whose number is set in current power control cycle", instead of the aforementioned phrase.

Claim 1 (lines 9-10) recites the limitation "and that in current power control cycle". It is not clear, from reading the claim, what this phrase intends to encompass, thus rendering the claim indefinite. For the purpose of this examination, claim 1 will be treated as reciting "and according to the obtained power control information whose number is set in current power control cycle", instead of the aforementioned phrase.

Claim 2 recites the limitations "$PC_{attributeN-1}$, $PC_{attributeN-2, \ldots}$, $PC_{attributeN-(n-1)}$" (lines 3-4) and "$PC_{step\ sizeN-1}$, $PC_{step\ sizeN-2, \ldots}$, $PC_{step\ sizeN-(n-1)}$" (lines 4-5) which render the claim indefinite because the claim includes elements not actually disclosed (those encompassed by "...") and it is not clear from reading the claim what are the values of "N" and "n", thereby rendering the scope of the claims unascertainable. For the purpose of this examination, claim 2 will be treated as reciting "a previous power control attribute" and "previous power control step size", instead of the aforementioned phrases (respectively).

Claim 5 recites the limitations "the change value" (line 2), "the PC step size" (line 2), "said current PC cycle" (line 2) and "the tendency" (line 3). There is insufficient antecedent basis for these limitations in the claim. For the purpose of this examination, claim 5 will be treated as reciting "a change value", "the power control step size", "said current power control cycle" and "a tendency", instead of the aforementioned phrases (respectively).

Claim 6 recites the limitation "said PC method" (line 2). There is insufficient antecedent basis for this limitation in the claim. For the purpose of this examination, claim 6 will be treated as reciting "said power control method", instead of the aforementioned phrase.

Claim 8 (line 4) recites the limitation "the memory unit". There is insufficient antecedent basis for this limitation in the claim. For the purpose of this examination, claim 8 will be treated as reciting "a memory unit", instead of the aforementioned phrase.

Claim 9 (line 4) recites the limitation "and that in current power control cycle". It is not clear, from reading the claim, what this phrase intends to encompass, thus rendering the claim indefinite. For the purpose of this examination, claim 9 will be treated as reciting "and obtaining power control information whose number is set in current power control cycle", instead of the aforementioned phrase.

Claim 9 (line 7) recites the limitation "and that in current power control cycle". It is not clear, from reading the claim, what this phrase intends to encompass, thus rendering the claim indefinite. For the purpose of this examination, claim 9 will be treated as reciting "and according to the obtained power control information whose number is set in current power control cycle", instead of the aforementioned phrase.

Claim 10 recites the limitations "$PC_{attributeN-1}$, $PC_{attributeN-2, \ldots}$, $PC_{attributeN-(n-1)}$" (lines 2-3) and "$PC_{step\ sizeN-1}$, $PC_{step\ sizeN-2, \ldots}$, $PC_{step\ sizeN-(n-1)}$" (lines 3-4) which render the claim indefinite because the claim includes elements not actually disclosed (those encompassed by "...") and it is not clear from reading the claim what are the values of "N" and "n", thereby rendering the scope of the claims unascertainable. For the purpose of this examination, claim 10 will be treated as reciting "a previous power control attribute" and "previous power control step size", instead of the aforementioned phrases (respectively).

Claims 8, 11, 12 and 13 recite several limitations containing the term "PC". However, the term "PC" has not been defined in any of these claims or the claims from which they depend, thus there is insufficient antecedent basis for these limitations in the claims. For the purpose of this examination, claims 8 and 11-13 will be treated as

reciting "power control" instead of "PC". The examiner respectfully suggest defining "PC" to mean "power control" upon its first occurrence in a group of related claims or alternatively using only the term "power control" uniformly throughout the claims as this will eliminate the problem of insufficient antecedent basis.

Claim 12 recites the limitation "the signal transmitted by the mobile terminal" in lines 7-8. There is insufficient antecedent basis for this limitation in the claim. For the purpose of this examination, claim 12 will be treated as reciting "a signal transmitted by a mobile terminal", instead of the aforementioned phrase.

Claim 13 recites the limitation "the BS" in line 4. There is insufficient antecedent basis for this limitation in the claim. For the purpose of this examination, claim 13 will be treated as reciting "a base station", instead of the aforementioned phrase.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-6 and 8-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Lomp (US 5,574,747).

Consider claims 1 and 9 (and the rejections under second paragraph of 35 U.S.C. 112), Lomp discloses an adaptive step size method for power control in wireless communication mobile terminal and system (column 2 lines 27-31, column 19 lines 44-63), it includes steps: obtain the power control information whose number is previously

set in previous power control cycle (column 19 lines 44-63) and obtaining the power control information whose number is set in current power control cycle (column 19 lines 44-63); determine the power control step size in current power control cycle according to the obtained power control information whose number is previously set in previous power control cycle and according to the obtained power control information whose number is set in previous power control cycle (column 19 line 44- column 22 line 10).

Consider claims 2 and 10 (and the rejections under second paragraph of 35 U.S.C. 112), Lomp discloses all the limitations as applied to claims 1 and 9 above and also disclose wherein said power control information whose number is previously set in previous power control cycle is a previous power control attribute and corresponding previous power control step size and, the said power control information in current power control cycle is current power control attribute N, and the said current PC step size is power control step size N (column 19 line 44- column 22 line 10 where Lomp discloses using the use of successive APC bits (hence a previous and a current) and changing the step size based on the agreement/disagreement of the APC bits).

Consider claims 3 and 11 (and the rejection under second paragraph of 35 U.S.C. 112), Lomp discloses all the limitations as applied to claims 2 and 9 above and also discloses the steps: if current power control attribute and previous power control attribute (successive APC bits) whose number is set increase or decrease continuously (in agreement), the current PC step size N enlarges based on the previous power control step size; if current power control attribute and previous power control attribute (successive APC bits) whose number is set increase or decrease discontinuously (in

disagreement), the current PC step size N cuts down based on PC step size N-I (column 19 line 44- column 22 line 10 where Lomp discloses changing the step size based on the agreement/disagreement of successive APC bits).

Consider claim 4, Lomp discloses all the limitations as applied to claim 3 above and also discloses wherein said current PC attribute is determined by base station according to the comparison results of SINR received with SINR target (column 3 line 45– column 4 line 41, column 15 lines 65-column 18 line 8, column 19 line 44- column 22 line 10).

Consider claims 5 and 6 (and the rejections under second paragraph of 35 U.S.C. 112), Lomp discloses all the limitations as applied to claim 1 above and also discloses wherein the change value of the PC step size in the said current PC cycle can be determined according to the tendency of the change value of the PC step size of transmitting power whose number is previously set (column 19 line 44- column 22 line 10 where Lomp discloses changing the step size based on the agreement/disagreement of successive (hence tendency) APC bits) and wherein said PC method can be applied to uplink closed-loop PC or downlink closed-loop PC (column 3 line 45– column 4 line 41, column 15 lines 65-column 18 line 8, column 19 line 44- column 22 line 10).

Consider claim 8 (and the rejection under second paragraph of 35 U.S.C. 112), Lomp discloses all the limitations as applied to claim 1 above and also discloses the following steps: store power control attribute whose number is set in previous power control cycle and corresponding power control step size whose number is set in the memory unit (column 19 line 44- column 22 line 10 where Lomp discloses an

accumulator); and store current power control attribute and power control step size into the memory unit (column 19 line 44- column 22 line 10 where Lomp discloses an accumulator) in order to determine the power control step size in the next power control cycle (column 19 line 44- column 22 line 10 where Lomp discloses an accumulator used to asses an adjustment in step size).

Consider claim 12 (and the rejection under second paragraph of 35 U.S.C. 112), Lomp discloses a wireless communication system, it includes an algorithm processing unit for power control (column 19 lines 44-63), a memory unit (column 19 line 44- column 22 line 10 where Lomp discloses an accumulator and an step size algorithm device), a signal processing unit (column 19 line 44- column 22 line 10 where Lomp discloses APC system), a receiving unit (column 3 line 45-column 4 line 41 where Lomp disclose a mobile station and base station receiving) and a transmitting unit (column 3 line 45-column 4 line 41 where Lomp disclose a mobile station and base station transmitting), wherein said memory unit is used to store previous and current power control step size and power control attribute (column 19 line 44- column 22 line 10 where Lomp discloses an accumulator and an step size algorithm device); said receiving unit receives a signal transmitted by a mobile terminal (column 17 line 18- column 18 line 8) and sends SINR value of the signal to said algorithm processing unit for power control (column 3 line 45– column 4 line 41, column 15 lines 65-column 18 line 8, column 19 line 44- column 22 line 10); said algorithm processing unit for power control compares SINR target value with SINR received value of the signal transmitted by the mobile terminal (column 3 line 45– column 4 line 41, column 15 lines 65-column

18 line 8, column 19 line 44- column 22 line 10) in order to determine the attribute of current power control step size and to detect the power control step size and power control attribute in previous power control cycle from the memory unit (column 19 line 44- column 22 line 10); if power control attributes in previous and current power control cycle increase or decrease continuously, then the power control step size in current power control cycle enlarges based on previous step size (column 19 line 44- column 22 line 10 where Lomp discloses changing the step size based on the agreement/disagreement of successive APC bits); if power control attributes in previous and current power control cycle increase or decrease discontinuously, then the power control step size in current power control cycle cuts down based on previous step size (column 19 line 44- column 22 line 10 where Lomp discloses changing the step size based on the agreement/disagreement of successive APC bits) and the current power control step size and power control attribute are sent to the signal processing unit; said signal processing unit inserts current power control step size and power control attribute into the downlink transmitting signal and transmits them to the transmitting unit; said transmitting unit transmits them to the mobile terminal (column 4 lines 20-37, column 19 line 44- column 22 line 31 where Lomp discloses the base station ensure that each mobile station transmits at the correct power level).

Consider claim 13 (and the rejection under second paragraph of 35 U.S.C. 112), Lomp discloses a mobile terminal, it includes a transmitting unit (column 3 line 45-column 4 line 41 where Lomp disclose a mobile station transmitting), a receiving unit (column 3 line 45-column 4 line 41 where Lomp disclose a mobile station receiving), a

signal processing unit (column 19 line 44- column 22 line 10 where Lomp discloses APC system), a memory unit (column 19 line 44- column 22 line 10 where Lomp discloses an accumulator) and an algorithm processing unit for power control (column 19 lines 44-63), said receiving unit receives power control command from a base station (column 4 lines 20-37, column 19 line 44- column 22 line 31 where Lomp discloses the base station ensure that each mobile station transmits at the correct power level) and sends power control attribute to the algorithm processing unit for power control (column 4 lines 20-37, column 19 line 44- column 22 line 31 where Lomp discloses the base station sends each mobile station a correct power level to transmit); said memory unit stores previous and current power control step size and power control attribute (column 19 line 44- column 22 line 10 where Lomp discloses an accumulator and an step size algorithm device); said power control algorithm processing unit for power control detects (tracks) current power control attribute and the power control step size and power control attribute in previous power control cycle from the memory unit and if power control attributes in previous and current power control cycle increase or decrease continuously, then the power control step size in current power control cycle enlarges based on previous step size (column 19 line 44- column 22 line 10 where Lomp discloses changing the step size based on the agreement/disagreement of successive APC bits); if power control attributes in previous and current power control cycle increase or decrease discontinuously, then the power control step size in current power control cycle cuts down based on previous step size (column 19 line 44- column 22 line 10 where Lomp discloses changing the step size based on the agreement/disagreement

of successive APC bits) and the current power control step size and power control attribute are sent to the signal processing unit said signal processing unit adjusts terminal transmitters according to the received power control command and said transmitting unit transmits signals according to the adjusted transmitting power (column 4 lines 20-37, column 19 line 44- column 22 line 31 where Lomp discloses the base station ensure that each mobile station transmits at the correct power level).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lomp in view of Hansen et al. (US 2002/0090966 A1).

Consider claim 7, Lomp et al. disclose all the limitations as applied to claim 6 above and also disclose wherein said power control method can be applied to wireless

communication system (column 17 line 24- column 19 line 63, figures 20 and 21 where Lomp discloses transmission/reception via antenna).

Lomp does not specify CDMA, GSM or AMPS.

Hansen et al. disclose CDMA, GSM and AMPS (paragraphs [0002]-[0003]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the power control method of Lomp on a system based on CDMA, GSM or AMPS as taught by Hansen et al. since it would be beneficial to adjust transmit power of wireless communication devices, including those devices that operate according to CDMA, GSM and AMPS standards, in order to improve power efficiency, reduce interference and/or meet regulatory requirements (as suggested by Hansen et al. in paragraphs [0003]-[0006] and Lomp in column 1 lines 29-37).

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alejandro Rivero whose telephone number is 571-272-2839. The examiner can normally be reached on Monday-Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information

about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AR

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